13 MICROCRYSTAL TESTS	Page 1 of 2		
Division of Forensic Science	Amendment Designator:		
CONTROLLED SUBSTANCES TRAINING MANUAL	Effective Date: 8-December-2003		

### 13 MICROCRYSTAL TESTS

## 13.1 Objectives

- 13.1.1 To familiarize the trainee with microcrystal tests for drugs.
- 13.1.2 To make the analyst proficient in the use of microcrystal tests for the identification of dextromethorphan.

### 13.2 Modes of Instruction

- 13.2.1 Self-directed study through reading assignments
- 13.2.2 Presentations and demonstrations
- 13.2.3 Practical exercise

#### 13.3 Reference

- 13.3.1 Clarke, E. G. C. *Isolation and Identification of Drugs, Volumes 1 and 2.* London: The Pharmaceutical Press, 1978, pp. 135-141.
- 13.3.2 Fulton, Charles C. Modern Microcrystal Tests for Drugs. New York: Wiley Interscience, 1969.
- 13.3.3 *Basic Training Program for Forensic Chemists*, U.S. Department of Justice, Drug Enforcement Adminstration, Office of Science and Technology, pp. 4-13 through 4-20.
- 13.3.4 DFS Controlled Substances Procedures Manual, Narcotics Section.
- 13.3.5 Siegel, Jay A., Ph.D. "Forensic Identification of Controlled Substances", in Saferstein, Richard, Ph.D., editor. *Forensic Science Handbook, Volume II.* Englewood Cliffs, N. J.: Prentice Hall, pp. 68-160.

# 13.4 Assignments

- 13.4.1 Completion of required reading assignments (13.3.1 and 13.3.4)
- 13.4.2 Study questions and practical exercise

## 13.5 Study questions

- 13.5.1 Describe the three types of microcrystal tests which may be used.
- 13.5.2 What are some of the advantages and disadvantages of microcrystal tests?
- 13.5.3 How can microcrystal tests be utilized to differentiate stereoisomers?
- 13.5.4 How would you document the results of microcrystal tests in your case notes?

#### 13.6 Practical Exercise

- 13.6.1 Perform microcrystal tests for the following drugs:
  - 13.6.1.1 Cocaine HCl
  - 13.6.1.2 Dextromethorphan

13 MICROCRYSTAL TESTS			Page 2 of 2	
	Division of Forensic Science		Amendment Designator:	
	CON	NTROLLED SUBSTANCES TRAINING MANUAL	Effective Date:	8-December-2003
13.7	Modes	of Evaluation		
	13.7.1	Written examination		
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